BRUHAT BENGALURU MAHANAGARA PALIKE

Name of work : Improvements of balance road and Drilling of borewells in G.Ramaiah Layout in Attur ward No.03 of Yelahanka Sattelite town sub division

Estimate Cost:Rs. 3900000.00

Sl No	Description of work	No	Dimensions L	B	D	Quantity	Rate	Unit	Amount
1	2	3	4	5	6	7	8	9	10
1	KSRRB 500-2.Cleaning the existingWBM road surface including removing of binding material and other foreign matter with wire brushers andf small picks sweeping with brooms, soft brushes and finally dusting with old gunny bags and/or compressed air to recieve bituminous treatmement including cost of all materials labour, HOM machineries, complete as per specifications MORTH / Chapter 5 **(P-175, It;21.1)**								
	Basic Rate	9.75							
	Area Weightage 8%	0.78							
	Total	**10.53**							
	Ramaiah layout cross road-1	1	190.00	6.00		1140.00			
	Ramaiah layout cross road-2	1	182.00	6.00		1092.00			
	Ramaiah layout cross road-3	1	180.00	6.00		1080.00			
					Total	**3312.00**	**10.53**	**Sqm**	**34875.00**
2	KSRB 2-1.1 Earthwork in surface excavation in ordinary soil for leveling and lowering the ground manually (other than foundation of buildings, culverts, road drains and trenches of pipe lines and cables) and removing the excavated stuff to a distance not exceeding 50m and lift upto 1.5m, excavated surface levelled and neatly dressed, disposed earth to be levelled and after breaking of clods and neatly dressed as per specification Specification No: KBS 2.1(a)/2.3.1 **(P-5 It,2.1)**								
	Basic Rate	117.00							
	Area Weightage 8%	9.36							
	Total	**126.36**							
	desilting	2	190.00	0.60	0.50	114.00			
		2	182.00	0.60	0.50	109.20			
		2	180.00	0.60	0.50	108.00			
					Total	**331.20**	**126.36**	**Cum**	**41850.00**
3	KSRRB M400-17.Providing, laying, spreading and compacting graded stones aggregate to Wet mix macadam specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specification, MORTH Specification N0.406 **(P-166 It,20.18)**								
	Basic Rate	1038.00							
	Area Weightage 8%	83.04							
	Total	**1121.04**							
	Rammaiah layout cross roads	1	190.00	6.00	0.23	262.20			
		1	182.00	6.00	0.23	251.16			

		1	180.00	6.00	0.23	248.40			
					Total	761.76	1121.04	Cum	853963.00
4	KSRRB M500-6:Providing and applying primer coat with bitumen emulsion on prepared surface of granular base including clearing of road surface and spraying primer at the rate of 0.60 Kg/sqm using maechanical means complete as per specifications. Morth Specification, No. 502 **(P-175, It.21.6)**								
	Basic Rate	41.00							
	Area Weightage 8%	3.28							
	Total	**44.28**							
	Ramaiah layout cross roads	1	190.00	6.00		1140.00			
		1	182.00	6.00		1092.00			
		1	180.00	6.00		1080.00			
					Total	1140.00	44.28	Sqm	50479.00
5	KSRRB 500-10:Tack coat:Providing and applying tack coat with bitumen emulsion pressure distributor at the rate of 0.20 Kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom, complete as per specifications. MORTH Specification No.503 using bitumen emulsion **(P-176, It,21.10.1)**								
	Basic Rate	11.10							
	Area Weightage 8%	0.89							
	Total	**11.99**							
	Ramaiah layout cross roads	1	190.00	6.00		1140.00			
		1	182.00	6.00		1092.00			
		1	180.00	6.00		1080.00			
					Total	3312.00	11.99	Sqm	39704.00
6	KSRRB M500-13: Providing and laying bituminous macadam 50mm thick with 100-120 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bitmiinous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per Clauses 501.6 and 501.7 to achieve the desired compaction complete as per specifications. Mother specification No 504 50-75mm compacted thickness (grading II)with 3.3% bitumen **(P-177, It.21.13.2)**								
	Basic Rate	6174.00							
	Area Weightage 8%	493.92							
	Total	**6667.92**							
	15% of Asphalting area	1	496.8		0.050	24.84			
					Total	24.84	6667.92	Cum	165631.00

7	KSRRB M500-19 Providing and laying bituminous concrete 30-45mm compacted thickness with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder at 5.4 to 5.6% of mix and filler,transporting the hot mix to work site, laying with hydrostatic paver finisher with sensor control to required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.500.9 complete in all respects as per specification. 30-45mm compacted thickness. (Grading II) with 6% bitumen 60/70. **(P-179, It,21.22.2)**								
	Basic Rate	10604.00							
	Area Weightage 8%	848.32							
	Total	**11452.32**							
	Ramaiah layout cross roads	1	190.00	6.00	0.040	45.60			
		1	182.00	5.00	0.040	43.68			
		1	180.00	6.00	0.040	43.20			
					Total	**132.48**	**11452.32**	**Cum**	**1517203.00**
8	KSRRB M100-1 Loading and unloading of stone boulder/stone aggregates/sand/ kankar/moorum. KSRRB M100-1 Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip complete as per specifications. MORTH Chapter 1 **(P-150, It.17.1)**								
	Basic Rate	62.20							
	Conveying for 10 km	25.60							
	sub total	87.80							
	Area Weightage 8%	7.02							
	Total	94.82							
	Qty wide item no.2					331.20			
					Total	**331.20**	**94.82**	**Cum**	**31406.00**
	borewells								
9	Geophysical investigation of site for sinking Borewell for supplying drinking water to the habitation either through the Hand pump, MWS of P.W.S.S by vertical electrical sounding by adopting Venner or Schlumberger's method, including reconnaissance survey of geological formation. Geophysical investigation of existing Ground Wate in the vicinity, its quality1.0 meter in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrument and accessories to work site, engaging technical personal and labour required etc., as per Specification and direction **(P.30, I. 9.4) PRED.SR 2008-09**								
	Nos	1					1	1900.00	**1900.00**

10 *Sinking borewell of 165 mm dia clear using super fast hydraulic rig of capacity 250 PSIG & above CFM & above in all strats including over burden upto 20 mts fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a maximum working of compressor for one hour (excluding cost of casing pipes, collars and cap etc.)* **29/I.1 PRED SR 2006-07 and as per corragandam SE PRED No. 9.1/2008-09**

0 to 50 m	Mtr	1	50.00	50.00	287.00	*14350.00*
50 to 100 m	Mtr	1	50.00	50.00	379.00	*18950.00*
100 to 150 m	Mtr	1	50.00	50.00	422.00	*21100.00*
150 to 200 m	Mtr	1	50.00	50.00	464.00	*23200.00*
200 to 250 m	Mtr	1	50.00	50.00	513.00	*25650.00*
250 to 300 m	Mtr	1	50.00	50.00	550.00	*27500.00*

11 *Supply of ISI mark 175 mm nominal bore medium black ERW casing pipe of 5 mm thick black electric resistance continuous welded mild steel tube material confirming to IS 1387 / 1993 & manufactured from hot rolled steel skelp / stripes in random length of 4 to 7 mts both ends threaded confirming to IS 554 / 1985, one end fixed with a socket and the other end with a plastic protection end (including of all taxes)* **as per corragandam SE PRED No. 2/2008-09**

	Mtr	1	50.00	50.00	1305.00	*65250.00*

12 *Providing 250mm dia PVC Pipe 5kg/cm as per specification and drection of the Engineer in Charge of the work*

	Mtr	1	24.00	24.00	754.47	*18107.00*

13 *Providing and fixing 175mm Borewell Cap*

	No.	1		1	695.00	*695.00*

14 *Supply and delivery at site brand New texmo/ innovat/ Lubi/ Sahar / Atalanta/ Calamat/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by meansns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for operation of 3PH, 50 Hz, 380/440 volts AC supply filled with required aggcessories such as suction casing suction straners sand guard Non return value etc. complete. The pump and motor shall form an integral unit with all the required fittings 10.00 HP 20 stage.* **SE RDED Approved Rate**

12.5 HP 20 Stage	No.	1		1	44000.00	*44000.00*

15 *Supplying of ISI marked galvanized mild steel tube (continously welded electric resistance welded (ERW) high frequency induction welded (HFIW) Hot finished welded type of nominal bore given below screwed at both ends as per IS 554/1986 with latest amendments, pipes threadles at one end and the other end protected asper specification in random lengths of 4 to 7 mtrs Confirming to IS 1239 part I/1990 with amendament 1-5 and with all its latest amendements if any. The pipes supplied should be with BIS mark No 3/08-09 2405/15.10.2008.* **50 mm dia including Collar Heavy Class**

	Mtr	1	280.00	280.00	415.00	*116200*

16	*Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper conductor confirming to table 3 class 5 of IS:8130-1984 and virgin grade PVC insulation and sheathed suitable for working voltage upto 1100 Volts. P. No. 46/ I No. 30-B 4.0* **Sqm mm of 36 strands 0.3mm dia Group - A KPWD Electrical SR 2007-08 3/2008-09 4538/19.01.2009**					
		Mtr	1x2	290.00	580.00	151.00	***87580.00***
17	*Erection of pumpset including aligning and balancing with all necessary erection materials and labour including supply and erection of one pair supporting clamps, one borewell cap Cable clips with bolts, nuts, valves guages etc., involoved in the job (Necessary GI pipe and specials with be supplied by the board at the site free of cost)* **(As per rate approved KUWS & DB for year 2008-09**					
		No.	1		1	3000.00	***3000.00***
18	*Supplying and fixing 20"x20"x2.5" polished wood board made of not less than 15mm thick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc., P No. 30/ I No. 2/I* **KPWD Electrical SR 2007-08**					
		No	1		1	285.00	***285.00***
19	*Supplying of LTUG cable having aluminium conductor PVC insulated shethed, galvnised steel, wire / steel tap armoured cable with PVC outer sheathing 1.1 KV class.P No. 67/ I No. 10(d)* **4 core 16 Sqmm KPWD Electrical SR 2007-08**					
		Mtr	1	30.00	30.00	150.00	***4500.00***
20	*Labour charges for laying of 1.1 K V class UG cable (PWD Electrical SR-1999-2000, P-68 /I.No 11a)* **KPWD Electrical SR 2007-08**					
		Mtr	1	30.00	30.00	8.00	***240.00***
21	*Digging or trenching of 0.6 m x 0.5 m wide refilling the trench to the required ground level and consolidating etc., complete as per Civil SR KSRB 1-2 P-7 P No. 68/ I. No. 12-d* **KPWD Electrical SR 2007-08**					
	For Cutting Road Surface	Mtr	1	25.00	25.00	60.00	***1500.00***
22	*Supplying and fixing of Class A (meaium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV class P. No. 69/ I No.15-A* **KPWD Electrical SR 2007-08**					
	40mm dia GI pipe	Mtr	1	10.00	10.00	240.00	***2400.00***
23	*Supplying and fixing L.T. cast iron pot head suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc., P. No. 59/ I No. 16-b* **KPWD Electrical SR 2007-08**					
		Nos	1		1	260.00	***260.00***
24	*Supplying fixing, wiring, earth electrode for grounding conduits, LC cutouts and other equipments on the meter board using 40 mm dia 2.90 mm thick GI pipe 2.5 m long buried in a pit. The pit should be filled with equal propotion of salt and charcoal 150 mm around the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size, as per ISI specification 7.3.3 IS 732 using 12 mm dia bolts, nuts, washers and check nuts, etc., the pipe shall have 16 throught holes of 122 mm dia, (PWD Electrical SR-1999-2000, P-66, I No 7)* **KPWD Electrical SR 2007-08**					
		Nos	1		1	1950.00	***1950.00***
25	*Supplying and fixing of Porcelain fuse channel with cut out on existing wooden / panel using necessary nuts, bolts and washer etc., complete ... P. No. 30/I No 3b* **KPWD Electrical SR 2007-08**					

	63 Amps	No	1x2	2	120.00	**240.00**
	Providing and fixing in position ***50mm*** *nominal bore gun metal non-return valve horizontal type of approved make including cost of all materials labour and HOM of equipments with all leads complete as per specifications. Specification No KBS 13-7.1-4 P.No 90/I No 13.55* **PWD SR 2007-08**					
		No	1	1	1114.00	**1114.00**
27	*Providing NP/CP waste unions conforming to ISI specifications and fixing them in position as per directions including cost of materials, fixtures and conveyance to work spot etc., complete. P No 93/ I No 13.81.3* **PWD SR 2007-08**					
	50mm dia	No	1	1	201.40	**201.00**
28	*Supplying and fixing 50mm dia GI X nipple with ISI mark with all lead and lift loading unloading and labour charges etc coomplete*					
		Nos	1 4	4	80.00	**320.00**
29	*Supplying shunt capators conforming to IS 2834. 3phase 400/440 volts grade for power factor improvement of rotating machinery. Capacitor in KVAR rateg Nos. 2KVAR capacity with all lead and lift =, loading, unloading and labour charges etc complete as per specifications*					
		No	1	1	350.00	**350.00**
30	*Supplying and fixing miniature circuit breakers/solators on existing MCB distribution boards using necessary fixing materisl wiring complete as requreds 5 to 30 amps triple pole with all lead and lift, loading, unloading and labour charges etc complete as per specifications*					
		No	1	1	1000.00	**1000.00**
31	*Fabrication supplying and mounting MS box of 16 SWG suitable for floor /wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished 2 coats of red oxide primer paint and finally finished with approved colour enamelled metal paint etc., complete box of 21600 sqcm @ Rs.0.35 P No. 39 / No 39R* **KPWD Electrical SR 2007-08**					
			1x2 120.00 90.00	14400		
			1 360.00 25.00	9000		
				23400.00	0.33	**7722.00**
32	*Supplying and delivery at site brand new star / Essen/ Lotus/Sonshines/Adarsh/ GK Controls best indigenous make combined energy meter - cum- control panel board unit of size 500x450 x200 mm minimum mechanically strong vermin and water proof. The unit shall have two detachable doors suitable for operation on 3 ph, 50Hz, 380/440 volts, A.C supply with spring loaded latch, locking device with a key nbs should be provided inside the door, canopy apron and louvers ventilators shall be provided, the combined energy meter cum- control panel board unit suitable for operation. The panel board shall be fabricated on single unit in the above components for suitable pumpset.* **15HP to 30 HP Star Delta Starter SERDED Rate**					
		No	1	1	11000.00	**11000.00**
33	*KSRB 2-2.2 Earth work excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in* ***hard soil*** *not exceeding 1.5m in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50m. specification, specification No KBS 2.1(b) / 2.3.5.* ***No. 5/ Item No. 2.4/ PWD SR 2013-14***					

	Cum	1	1000.00	0.60	0.75	450.00	223.66	100647.00
	Basic Rate	211.00						
	A W @ 6%	12.66						
	Total	**223.66**						

34 *Providing and instalation at site of works P.V.C Pipes including cost of pipes and specials and including lowring into trenches, laying true to line, level and perfect linking at joints, leak proof including jointing encasing the pipe alround to a depth Not less than 15cm with grave or selected earth avalable from the execavation Etc., Page No.3 item No.4.2* **PRE SR2008-09.**

75mm Dia 6 KSC	Rmtr	1	1000.00	1000.00	117.00	117000.00

35 *KSRB 2-4 : Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50mm, and lift upto 1.5m, including cost of all labour complete as per specifications.* ***No. 6/ Item No. 2.11/ PWD SR 2010-11***

	Cum	Qty Vide Item No. 25		450.00	59.36	26712.00
	Basic Rate	56.00				
	A W @ 6%	3.36				
	Total	**59.36**				

36 *KSRB 13.6.3-6 : Providing and fixing in position brass gate valve with C I head wheel of approved quality (screwed end)* ***50mm*** *nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No. KBS 13.2.6/13.3 (P 98/I.13.37* ***PWD SR - 2013-14)***

	Each	1	3	3	2109.40	6328.00
	Basic Rate	1990.00				
	A W @ 6%	119.40				
	Total	**2109.40**				

37 For BESCOM charges

	No	1		1	25000.00	25000.00

	TOTAL	3511362.00
38 *Add KRIDL Charges 11%*		386249.82
39 *Miscellaneous & Rounding off*	L/S	2388.18
	Total Rs:	3900000.00

CERTIFICATE:

1. *The work spot comes under BBMP Limits*
2. *The provisions made in the estimate are necessary and minimum*
3. *The estimate is based on CSR of PWD 2013-14*

Assistant Engineer
Ward No.3

Executive Engineer
Yelahanka Division
Bruhat Bengaluru Mahanagara Palike

Assistant Executive Engineer
Yelahanka Sattelite Town Sub-Division
Bruhat Bengaluru Mahanagara Palike

NAME OF WORK : IMPROVEMENTS TO BALANCE ROADS AND DRILLING OF BOREWELL IN G. RAMAIAH LAYOUT IN ATTUR WARD NO: -03 OF YELAHANKA NEW TOWN SUB-DIVISION.